

SORGHUM AND SUDANGRASS

Warm season forage crops, including sorghum, sudangrass, sorghum/sudangrass hybrids, and millets have not been widely grown in Cache County. However, a growing number of farmers are recognizing the potential benefits of these quick forage production plants. My conversations with local farmers who have been raising Sorghum-sudangrass hybrids show they are quite pleased with the results. These warm season grasses grow quickly, yield well, are quite palatable and can be used as pasture, green chop, dry hay or silage. There are a growing number of hybrids that are high-yielding and combine leafiness and impressive regrowth ability.

Sorghum/sudangrass hybrids should be planted after soil temperatures are consistently above 60 degrees F. One advantage of seeding a later season crop is it helps distribute the busy springtime farming workload. Another advantage of seeding later than small grains is that many annual weeds will emerge, and can be controlled with a light cultivation. A potential disadvantage is the risk of reduced precipitation after seeding.

These plants show good response to Nitrogen (N) fertilizer. The general recommendation is 50 to 80 pounds N incorporated pre-plant with an addition 40 pounds topdressed on the regrowth. Phosphorus and potassium requirements are similar to those of small grains. Growers are always advised to obtain a soil test to more closely determine plant needs. Obviously, soil fertility and available moisture impact yield, but 6 to 8 tons of dry hay per acre is not uncommon.

Sudangrass is best suited for grazing or hay production. Sheep can be turned out when the crop is 12 to 14 inches tall, and cattle when the crop is 18 to 24 inches tall. This is usually 5 to 6 weeks after planting. The plants will show a quicker regrowth if livestock are not allowed to graze lower than 4 inches. For optimal use, fencing should be used to set up a rotational grazing scheme.

Sudangrass should be cut for hay during the vegetative stage before the heads emerge. A hay conditioner should be used to mow and crush the stems for a more rapid, uniform drying. Some producers have successfully made high-quality "baleage" from sorghum/sudangrass. The crop is cut and round-baled with net wrap, then individually wrapped in plastic bale bags while at about 50% moisture. This can result in a very palatable and nutritious ensiled feed. These plants also make good silage when harvested in the boot to early-head stage. At this stage they may have to be mowed and allowed to partially dry in the field before ensiling.

There are also reports of growers successfully grazing sorghum/sudangrass as a winter feed for beef cattle. The grazing should be managed by allowing the animal's access to relatively narrow strips at any given time. Otherwise they will trample much of the feed and lose much of the potential feed value. It may also be necessary to provide a protein supplement as protein levels are rather variable and depend in part on the amount of nitrogen fertilizer. Obviously, cattle should be monitored for body condition and general health regardless of the system used for feeding.

Prussic Acid Poisoning is a major concern when feeding sorghum and sudangrass since these species contain varying amounts of cyanogenic glucosides. In the rumen, these compounds are converted into

prussic acid which is readily absorbed into the blood stream where it interferes with respiration. If prussic acid is present in the rumen and absorbed rapidly enough, the animal will soon die from respiratory paralysis.

Nitrate poisoning can also be a problem under certain conditions. When plants containing high levels of nitrates are eaten, the nitrates are converted into nitrites faster than they can be properly utilized by the animal. These excessive nitrites are absorbed into the bloodstream and alter the blood so that it cannot carry oxygen. This causes rapid breathing, fast and weak heartbeat, muscle tremors, staggering and ultimately death.

Risks of poisoning can be reduced by following these management practices:

- 1) Graze or greenchop only when plants are greater than 18 inches tall.
- 2) Do not graze plants during or immediately after a drought when growth has been reduced.
- 3) Do not graze on nights when a frost is likely. High levels of the toxic compounds are produced within hours after a frost occurs.
- 4) Do not graze after a killing frost until the plant is dry. (the cyanogenic glucosides usually dissipate within several days) Frosted plants can be safely grazed one week after a killing frost or after the entire plant is killed by frost and turns brown.
- 5) Delay feeding silage for 6 to 8 weeks after ensiling.
- 6) Don't feed horses any of these summer-annual species.